

REMARKS

Upon receipt of this response, the Examiner is respectfully requested to contact the undersigned representative of the Applicant to arrange a telephone interview concerning the inventive merits of this application.

Claims 37, 41, 45, 48-50, 53, 54, 58-62, 64 71 and 72 are rejected, under 35 U.S.C. § 103(a), as being unpatentable over Stelzmuller et al. '065 (U.S. Patent No. 5,731,065) in view of Jones et al. '078 (U.S. Patent No. 4,932,078). The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

The claims of the application relate to a lower leg protective apparel--more specifically a sock having a toe section and a heel section--which provides at least the foot of a wearer with protection from one of chemical and biological noxiants. The lower leg protective apparel or sock has a plurality of plies and comprises an outersock, a laminate and an innersock. The laminate is disposed on an inner side of the outersock consists of only first, second and third layers, with the first layer being a single flexible, windproof, breathable and water-rejecting membrane which forms the outer surface of the laminate and is a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants. The second layer of the laminate is a single layer of carbon and is disposed underneath the membrane. The carbon in the carbon layer is one of in a fibrous form or active spherules. The third layer of the laminate is an inner textile ply. The innersock is a second textile ply and disposed on an inner side of the laminate. At least one of the outersock and the innersock is fabricated from a plurality of cuts and the seams between the cuts are sealed by a seam-sealing tape of a waterproof material. The outersock, the laminate and the innersock are assembled to one another as a single unit by at least one of bonding and stitching.

Turning now to Stelzmuller et al. '065 this reference relates to and describes a multilayered, textile based, gas-permeable filter material for use in protective suits to provide protection against toxic chemical substances. As described by Stelzmuller et al. '065, a first embodiment of the material includes four layers wherein the first layer 1 which is a support layer comprised of a woven textile; a second layer 2 which is a gas-permeable adhesive layer that is bonded to the first layer 1 and comprises a fiber or fabric or a perforated foil for blocking liquids and solids but passing water vapor; a third layer 3 that is bonded to the second layer 2 and comprises a textile containing activated carbon fibers as an absorbent layer; and a fourth layer 4 which is bonded to the third layer 3 and functions as a cover layer and comprises the

same material as the second layer 2, that is, a gas-permeable adhesive fiber, fabric or foil for blocking noxious liquids and solids but passing water vapor.

A second embodiment, described by Stelzmuller et al. '065, includes six layers that include: (a) first layer comprising a warp knit fabric support layer 1a generally similar to the first layer 1 of the first embodiment; (b) second layer comprising a membrane layer 2a formed of a hydrophilic polyurethane bonded to the support layer 1a and generally similar to the gas-permeable second layer 2 of the first embodiment, that is, it comprises a layer for blocking noxious liquids and solids but passes water vapor; (c) a third layer comprising a foam layer 3a that is bonded to the second layer 2a; (d) a fourth layer comprising a carbonized wove fabric acting as an absorbent layer; (e) a fifth layer comprising a hydrophilic adhesive coating layer 5a; and a sixth layer comprising a cover layer 6a form of a woven fabric.

The Applicant asserts that there are a number of fundamental differences and distinctions between the presently claimed invention and the embodiments for a protective material as described in Stelzmuller et al. '065. For example, in the instance of the first embodiment of Stelzmuller et al. '065, the second and fourth layers of the Stelzmuller et al. '065 material are essentially comprised of the same gas-permeable adhesive fiber, fabric or foil for blocking noxious liquids and solids but passing water vapor. In complete contrast from the teachings, suggestions and disclosures of Stelzmuller et al. '065—and assuming solely for purposes of discussion that the outersock 1 layer of the present invention may be regarded as corresponding in some manner to the first fabric layer 1 of the Stelzmuller et al. '065 material rather than a separate layer, with which the Applicant does not concur—the material of the present invention contains only single layer of a gas-permeable material, that is, the first layer of the laminate, and includes a single layer of textile material instead of the second layer of gas-permeable adhesive fiber, fabric or foil as specifically taught by Stelzmuller et al. '065.

In complete contrast from the second, six layer embodiment of the Stelzmuller et al. '065 material, the presently claimed invention relates to a sock, having a toe section for accommodating the toes of a wearer and a heel section for accommodating the heel of a wearer, which comprises a laminate 7 consisting only of three layers, those being a single breathable and water-rejecting membrane 7, a single carbon layer 8 and a single inner textile ply layer 9, an outersock 1 and, in at least some implementations, an innersock 3, and the outersock 1 and the innersock 3, if any, are constructed separately from the three layer laminate 2.

In further distinction Stelzmuller et al. '065 teaches a material, which includes a foam layer 3a that is bonded to the second layer 2a or a fifth layer comprising a hydrophilic adhesive coating layer 5a, similar to the second layer 2a. Again, and in fundamental distinction between claims of the present invention and the teachings, suggestions, disclosures, motivations and hints of Stelzmuller et al. '065, the presently claimed invention recites only a single gas-permeable layer, as discussed above with regard to the first embodiment, and further the carbonized layer is bonded directly to the gas-permeable layer rather than to a foam layer interposed between the carbonized layer and the gas-permeable layer as taught by the reference.

The Examiner recognizes that Stelzmuller et al. '065 fails to teach a protective apparel fabricated by a plurality of cuts, with the seams between the cuts being sealed by a seam-sealing tape comprised of a waterproof material.

The reference of Jones et al. '078, was therefore cited by the Examiner for its alleged teachings of a protective garment that is formed of a plurality of cuts with seams being sealed by a sealing tape comprising a waterproof material and it's teaching of a plurality of piles sewn together at upper ends and in a foot tip region.

More specifically, Jones et al. '078 relates to a garment system for particulate control. The system has foot enclosure means 10 with electroconductive soles 11 and ankle cuffs 22 made of an elastomeric laminate. Although, the cuffs are described in detail, Jones et al. '078 fails to teach the claim limitations of an innersock, a laminate and an outersock, with the innersock, at an uppermost portion of the garment, folding over the laminate and the outersock and covering a portion of an outer side of the outersock to expose the innersock to an exterior of the garment.

Furthermore with reference to Figs. 1 and 2, Jones et al. '078 teaches that the foot enclosure 10 is made from three different materials. Specifically, the foot covering is formed by one fabric, while the cuff 22 is formed by another elastomeric material and the soles 11 are formed of a further material so as to be electroconductive. As such Jones et al. '078 specifically fails to teach a sock garment made of a *single* laminate that has been cut to form a section for the shaft, a section for an upper part of the foot and a section for the sole.

Claims 46 and 47 are then rejected, under 35 U.S.C. § 103(a), as being unpatentable over Stelzmuller et al. '065 and Jones et al. '078 in view of Nomi '806 (U.S. Patent No. 5,190,806). The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

The Applicant acknowledges that the additional reference of Nomi '806 may arguably relate to the feature(s) indicated by the Examiner in the official action. Nevertheless, the Applicant respectfully submits that the combination of the base references of Stelzmuller et al. '065 and Jones et al. '078 with this additional art of Nomi '806 still fails to in any way teach, suggest, disclose or remotely hint at the above distinguishing features of the presently claimed invention. As such, all of the raised rejections should be withdrawn at this time in view of the above amendments and remarks.

In order to emphasize the above noted distinctions between the presently claimed invention and the applied art, the independent claims of this application now each recite at least one or more of the following features which are combined in independent claim 72 and this claims recites "a sock garment having a toe section and a heel section for providing protection to at least a foot of a wearer from one of chemical and biological noxants, the sock garment consisting of first, second and third plies: the first ply consisting of an outersock (1) comprising at least one of one of wool, cotton, silk, polyester, polypropylene, polyamide and polyacrylic; the second ply being a laminate (2) consisting of first, second and third layers, with the first layer being adjacent an inner side of the outersock (1); the first layer of the laminate (2) consisting of a single flexible, windproof, breathable and water-rejecting membrane (7) which forms an outer surface of the laminate (2) and which forms at least a barrier to biological noxants and at least a partial barrier to liquid chemical noxants, the second layer of the laminate (2) consisting of a single carbon layer (8) which is disposed underneath the membrane (7) and which comprises carbon in a fibrous form from one of a woven and a loop-drawingly knit fabric, the third layer of the laminate (2) consisting of an inner hydrophilic textile ply (9) that is one of a woven and a loop-formingly knit fabric, and the third ply consisting of an innersock (3) that is hydrophilic and disposed adjacent the third layer of the laminate (2) and comprises at least one of polypropylene, polyamide and polyester; wherein at least one of the outersock (1) and the innersock (3) is fabricated from a plurality of cuts (4, 5, 6), seams between the cuts (4, 5, 6) being sealed by a seam-sealing tape comprising a waterproof material, a thickness of carbon layer (8) is in a range from 0.2 to 1.0 mm; the innersock (3), at an upper most portion of the sock garment, folds back over the laminate (2) and the outersock (1) and covers a portion of an outer side of the outersock (1) to facilitate evaporation of moisture absorbed thereby; and the outersock (1), the laminate (2) and the innersock (3) are bonded to one another as a single unit". Such features are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejections should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejections or applicability of the Stelzmuller et al. '065, Jones et al. '078 and/or Nomi '806 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,


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